UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

SR-6J

April 29, 2022

Jamie Rott
Water Superintendent
City of Rockford
425 East State Street
Rockford, Illinois 61104-1068

Subject: **Review of Consolidated Groundwater Monitoring Report for Semi-Annual Monitoring Events June 2021 and November 2021 (2021 Groundwater Report)**
Southeast Rockford Groundwater Contamination Superfund Site

Dear Ms Rott:

U.S. Environmental Protection Agency (EPA) has reviewed the above titled document issued March 17, 2022, and prepared by Nationwide Environmental Services, Inc. (NES) on behalf of the City of Rockford (City) for the Southeast Rockford Groundwater Contamination Superfund Site (SERGCSS) in Rockford, Illinois. EPA reviewed the responses to comments from Appendix C and the responses are satisfactory. Please note, the implementation of some of those responses warrant additional (or clarifying) comment and are detailed below (Comment #'s 2, 4, 5, 6, 9, 10, 12) in addition to new comments from the 2021 Groundwater Report.

EPA realizes the transformation of the OU2 Groundwater Report is an iterative process. In that vein, EPA is requiring a revision of the 2021 Groundwater Report (inclusive of a response to comment letter), incorporating the below comments, unless the comment specifically states that the specified modification shall be implemented in the next 2022 semi-annual groundwater monitoring report (and will be highlighted in yellow). If there are uncertainties or disagreements with any of the below comments please contact me so that we may discuss and agree on an appropriate path forward.

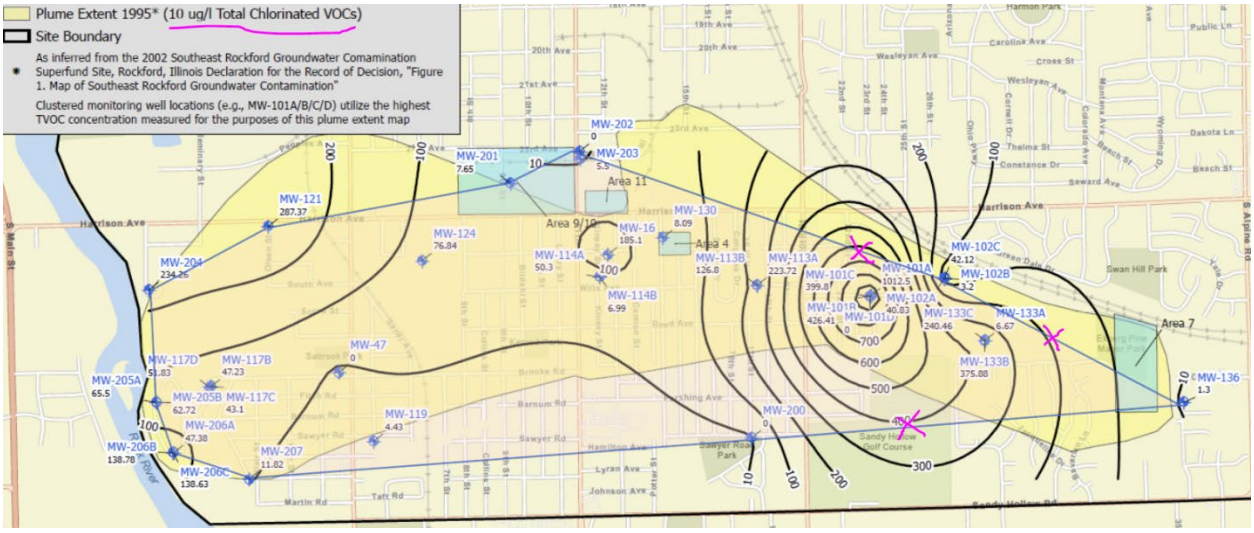
Comments

1. https://semspub.epa.gov/work/HQ/500024623.pdf: this link presents recommended contents of a groundwater monitoring report for sites within various regulatory programs, including Superfund. This guidance provides recommendations for presentation of data and overall reporting that would prove useful during this transformation of the OU2 Groundwater Report.
2. Figure 1 – Include the 2012 total volatile organic compound (TVOC) plume contour shape. EPA will provide shape files of this information, if needed. Additionally, the new 2022 TVOC plume contour shape shall be included once that assessment is finalized. At that time, EPA will provide those shape files to the City. These plume representations (1995, 2012, 2022) will prove useful when incorporated on other figures such as TVOC and individual contaminant of concern (COC) contour maps (see comments #4 and #5).

3. Figure 2 –

   a) Dash contours outside the data boundary (light red polygon below) where not constrained by data points. Include dashed line in the legend.

   b) Describe method(s) (e.g. (model, linear extrapolation, hand-drawn based on experience) used for contouring in the text.



4. Individual Compounds that exceed MCLs – Based on Figures 3A and 3B, PCE, TCE, 1,1-DCE, 1,1,1-TCA, are the main compounds that exceed MCLs and to a lesser extent, VC and 1,2-DCE. These compounds should have individual Mann-Kendall evaluations per well (where they exceed or have exceeded in the last 5 five year). These are also the compounds for which compound specific contour figures/maps should be prepared. Please include the select individual contaminant Mann-Kendall evaluations and contour figures (also detailed in Comment #5) in the first 2022 semi-annual groundwater monitoring report.

5. Analytical Data Presentation – Plot analytical results on figure(s) with analyte concentration contour lines, as appropriate, which include TVOCs (which is presented in Figure 2), select individual VOCs, and 1, 4 dioxane. Please include the select individual contaminant contouring figures, including the 1,4 dioxane figure, in the first 2022 semi-annual groundwater monitoring report.

6. Mann-Kendall –

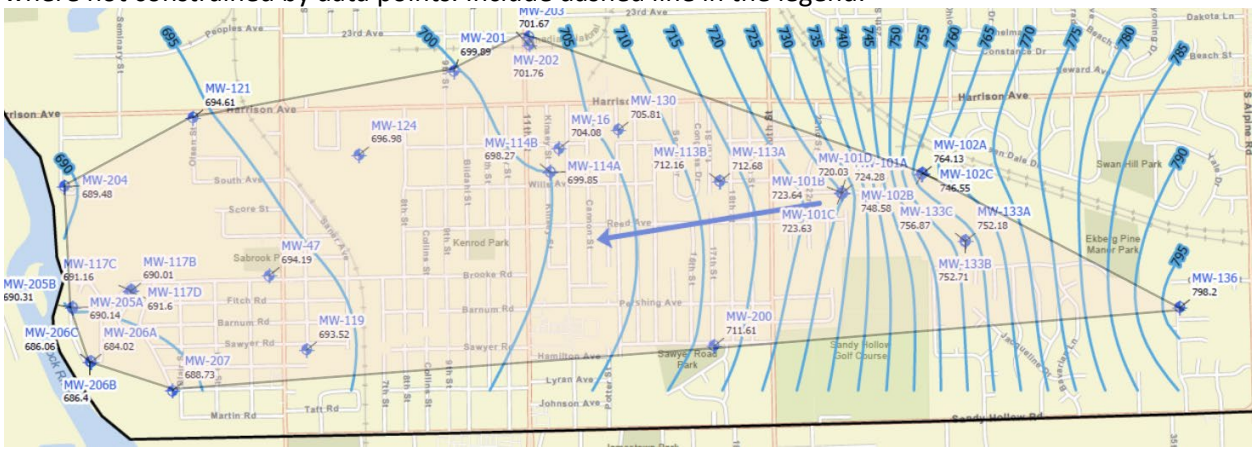
   a) Include the p-value to indicate significance of the Mann-Kendall trend. Include the Mann-Kendall test statistical criteria (p-values) in Figure 5 and update the TVOC Trend column in the associated Mann-Kendall Table on page 8 and 9.

   The null hypothesis for the Mann-Kendall statistical test is “no trend”. If the p-value (p) is less than alpha (the threshold of significance = 0.05 at 95% confidence) then the null hypothesis is rejected, and if the slope (or S value) is negative, the negative trend is then significant or if the S value is positive, the positive trend is then significant. If p>0.05 the trend would be “no trend” even if the slope or S value is negative (or positive) because that decrease (or increase) is not statistically significant.

   b) Also “no trend” does not equate to “stable” trend. Please substantiate the difference in the text or change “stable trend” to “no trend” in the report. “Probably Decreasing” is also not an appropriate description when a statistical test is used. Update Figure 5 and the associated Table with these revisions.

c) Because of data variation over the 25+ years it is best practice to conduct Mann-Kendall analyses on the last 5 years of data collection (with trendline). Please revise Figure 5 figures and Mann-Kendall Trend Analysis for TVOC Table as appropriate. Please continue (as in this report) to include all the years of data on the figure. One could include a regression line for all data points, but the Mann-Kendall analysis shall be for the last 5 years. Comment 4c can be incorporated in the first 2022 semi-annual groundwater monitoring report.

7. Potentiometric Contour Lines – Dash contours outside the data boundary (light red polygon below) where not constrained by data points. Include dashed line in the legend.



8. Table 4 – Include bottom of screen and top of screen depths in this table.

9. Description of Hydrogeology – Describe in the text if all of the wells are screened in the same aquifer or not. The well elevations all seem to be included in the same potentiometric map, but it is noted that there are nested wells (i.e. A, B, C, D), which raises the question of, are they all screened in the same aquifer? Please include a brief description of the hydrogeology (and related geology) in the introduction so the reader can understand that all of the elevations and chemical concentrations are indeed (or not) from the same aquifer.

10. Groundwater Elevations and potential impact on COC concentrations –

    a) Include a table of cumulative groundwater elevations over time.

    b) Include figures that plot groundwater elevations over time for each monitoring well. Each figure can present multiple monitoring wells' elevations over time.

    c) Look at "anomalous" groundwater elevation patterns (e.g. highs/lows) and see if this corresponds to any changes in COC concentrations. Describe this potential relationship in the text as it is important to understand (even at a cursory level) if groundwater elevations are affecting COC concentrations and in which wells.

11. Section 4.1; pg. 7; 3rd paragraph of that section, "Groundwater flow across the Site generally follows the groundwater surface gradient from west to east." Groundwater gradient and flow is from east to west. Revise this text.

12. Table 4 - Well location coordinates are still integers for wells 102B and 102C (see table snip below). Coordinates should be verified.

Table 4 - Southeast Rockford Gr
Groundwater Mor

Table 4:	Easting	Northing	TOC Elevation (ft amsl)	Ground Surface Elevation (ft amsl)	Total Depth (ft TOC)[2]	Location Desc
MW-16	2593475.34	2030401.25	725.57	725.68	62.25	East of Kinsey Street, north of drain canal
MW-47	2588765.03	2028342.66	735.23	735.56	54.16	Brooke Rd. 1/2 Block West of Kishwaukee Intersection. In shoulder on North side of road.
MW-101A	2598084.40	2029683.41	765.62	764.10	90.35	Northeast corner of Laude and 24th Street
MW-101B	2598093.32	2029682.50	766.62	764.10	153.74	
MW-101C	2598076.01	2029675.69	766.48	764.00	174.89	
MW-101D	2598066.94	2029682.19	764.96	763.90	212.72	
MW-102A[3]	2599371.95	2029982.56	782.69	783.01	34.69	South of RR tracks, east of Laude Street (Owens-Corning Property)
MW-102B	2599380.00	2029990.00	783.01	783.31	97.70	
MW-102C[3]	2599388.00	2029999.00	783.13	783.58	183.85	
MW-113A	2596096.44	2029869.64	766.54	767.00	104.50	West of Willis and 18th Street
MW-113B	2596088.18	2029873.56	766.65	766.40	155.26	
MW-114A	2593333.10	2030016.18	725.15	725.45	94.70	

If you have questions, please call me at (312) 886-7153.

Sincerely,

Jennifer Knoepfle

Jennifer Knoepfle, Ph.D., P.G.
Remedial Project Manager

c (via electronic mail):
Ifeanyi C. Mogbana, City Attorney, City of Rockford
Kyle Saunders, Director of Public Works, City of Rockford
Teri Murray, Assistant Superintendent of Water Production, City of Rockford
Josh Baylor, Water Quality Supervisor, City of Rockford
Brian Conrath, Remedial Project Manager, Illinois Environmental Protection Agency
Tom Turner, Attorney, EPA Region 5, Office of Regional Council
Joe Richards, Hydrogeologist, U. S. Geological Survey